

REMARKS

Claims 1-18 remain in this application.

Applicant thanks the Examiner for the indication that claims 9-12 and 18 contain allowable subject matter.

Claims 1, 5, 13 and 17 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Japanese Patent Publication No. 2000-164104 (*Seki*). Claims 2-3, 6-8 and 14-15 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Seki*. The Office Action relies upon movable electrode 25, as shown for example in Figs. 1B and 4A, for a disclosure of a movable element, floated over the substrate 11a, by support elements 21, with flexure elements 22 for elastically suspending the movable element 25 on the support elements 21. The Office Action then relies upon protrusions 24, formed at the bottom surface of movable substrate 20 in Fig. 1D, or formed at the bottom surface of movable electrode 25 in Fig. 4A, for allegedly disclosing repulsive elements for increasing the repulsive force of the flexure elements 22 when the flexure elements 22 are resiliently deformed by a predetermined amount during movement of the movable element 25.

Independent claims 1 and 13 are directed to a MEMS device having flexure elements with non-linear restoring force. Flexure elements elastically suspend a movable element on support elements such that the movable element is suspended over a substrate. Repulsive elements are provided for increasing the repulsive force of the flexure elements when the flexure elements supporting the movable element are resiliently deformed by a predetermined amount.

In contrast to the above-described novel combinations of features, the protrusions 24 extending from movable electrodes 25 in *Seki* are not mounted on the flexure elements 22 of *Seki*, and are not capable of increasing the repulsive force of the flexure elements 22 when the flexure elements 22 supporting movable electrode 25 are resiliently deformed by a predetermined amount. As explained in column 5, line 45 - column 6, line 10 of *Seki*, elastic deformation of the protrusion 24 when the protrusion 24 contacts the fixed substrate 10 generates a force F_{s3} to pull the movable electrode 25 upward. This force F_{s3} is added together with forces F_{s1} and F_{s2} generated by first beam members 22 and second beam members 23, in order to work together as a force to separate the terminals 13, 14, 28. Accordingly, elastic deformation of protrusion 24 does not have any effect whatsoever on the forces generated by the elastic beam members 22 and 23. Instead, the force F_{s3} generated by elastic deformation of protrusion 24 is simply an additional force to the forces F_{s1} and F_{s2} generated by the elastic beam members 22 and 23. Accordingly, Applicant respectfully submits that the protrusions 24 do not in any way increase the repulsive force of the flexure elements 22 when the flexure elements 22 supporting the movable element 25 are resiliently deformed by a predetermined amount.

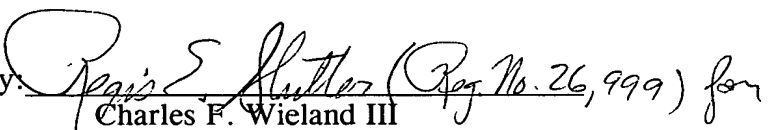
For at least the above reasons, Applicant submits that the novel combinations of features claimed in independent claims 1 and 13, and hence dependent claims 2-12 and 14-18, are neither anticipated nor rendered obvious by *Seki*. Withdrawal of all rejections under 35 U.S.C. § 102 and § 103 is therefore respectfully requested.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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